

DESCRIPTIONS OF NEW AUSTRALASIAN BLATTIDAE WITH A NOTE
ON THE BLATTID COXA.

By ELAND SHAW, M.R.C.S., F.E.S.

(Seven Text-figures.)

[Read 26th July, 1922.]

In this paper will be found descriptions of nine new cockroaches. Three are additions to the large genus *Platyzoisteria* Brunner von Wattenwyl, two of them from Queensland, and one from Western Australia; five are placed in *Cutilia* Stal, a genus which will probably be found to embrace many more species than the sixteen now included in it; and one is referred doubtfully to the genus *Zonioploca* Stal.

Note on the Blattid Coxa.

Most of the Blattidae spend their lives in narrow places such as under bark, under fallen wood, in crevices, or under stones, leaves, or rubbish, necessitating a depression of form characteristic of the family, in the production of which the middle and posterior coxae take part. When the leg is drawn up with the femur flexed on the coxa the thickness of the femur and coxa together would add considerably to the depth of the insect; so to obviate this, the part of the coxa (Text-fig. 1, b) adjacent to the flexed femur is grooved out to receive it. This groove, it is suggested, should be called the *coxal groove*; the thickened part (Text-fig. 1, a) internal to the groove the *coxal ridge*; and the flattened part (Text-fig. 1, c) external to it the *coxal border*. The coxal border is quite flat, and is frequently of a pale colour, a point of considerable taxonomic importance, and the pale colour is usually exhibited on both the dorsal and the ventral aspects. The coxal ridge is always thick, the thickest part of the coxa, its thickness varying somewhat in different genera, and the slope of the coxal groove varies with it. The distal part of the coxal ridge terminates externally in a backwardly-produced flattened lobe, rounded at its apex, which is the *coxal process* (Text-fig. 1, d); this varies somewhat in size and shape, and sometimes, as in *Platyzoisteria cingulata* mihi, and *P. babindae* mihi (*infra*) is distinctively

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coloured. The *trochanter* (Text-fig. 1, e), firmly attached to the proximal end of the *femur* (Text-fig. 1, f) and protecting the coxo-femoral joint, is itself protected by the coxal process, being safely tucked in between it and the distal end of the coxal border. Were it not for this, the trochanter would be in danger of being torn off as the insect crept through narrow places, but the coxal process is admirably adapted to act as a guide along which injurious objects might safely ride over the free margin of the trochanter.

The terms "coxal process" and "posterior coxa" are in use amongst coleopterists for a structure homologous to that found in the cockroaches; the large flattened-out posterior coxa of the Dytiscidae with its coxal process bears a strong resemblance to the Blattid one, though in the water beetle the coxa is not grooved out to receive the flexed femur, great depression of form not being called for.

Subfamily BLATTINAE.

Genus PLATYZOSTERIA Br. v. W.

PLATYZOSTERIA BABINDAE, n.sp.

Black, nitid. Head black, eyes greyish, ocelliiform spots yellow, antennae fuscous, basal segments darker. Thoracic tergites with large scattered shallow pits; postero-lateral angles slightly produced backwards; posterior margin with a slight medial backward production; no tegminal vestiges, but shallow lateral grooves on the mesonotum and metanotum indicate the position of the lost flying organs (*See* Shaw, Mem. Qland Mus., vi., 1918, p. 152). Abdominal tergites with a row of short longitudinal carinae at their posterior margins; lateral portions of tergites 2, 3 and 4, and the whole of tergites 5, 6 and 7 coarsely scabrous; tergites 5, 6 and 7 with their postero-lateral angles backwardly produced; lateral margins of tergite 7 denticulate, and an orange macula occupying its antero-lateral angle; tergite 9 with the postero-lateral angles yellow. Supra-anal lamina of ♂ subquadrate, scabrous; posterior margin faintly emarginate. ciliate; lateral margin furnished with a few stout spines; cerci exceeding the lamina by about one-third of their length, tips fuscous. Subgenital lamina of ♂ subquadrate, posterior margin irregularly crenulate and spined (possibly malformed), styles laterally situate, tips rufo-castaneous. Lateral margins and postero-lateral angles of abdominal sternites 7 and 8 spined in ♂. Supra-anal lamina of ♀ rounded, scabrous, coarsely spined, roundly emarginate, projecting slightly beyond the cerci. Legs black, coxal borders broadly yellow, coxal processes orange red; posterior meta-tarsi shorter than the remaining segments combined, their pulvilli occupying almost their entire length; basal portion of the distal segments of all the tarsi yellowish. *Length*, ♂ 16 mm., ♀ 19 mm. Type, specimen No. 143 (♂); allotype, specimen No. 144 (♀), Coll. Shaw.

Hab.—*Queensland*: Babinda (3 specimens. Dr. J. F. Illingworth, Nov., 1919).

Notes.—This species appears to be allied to *P. bicolor* Kirby, from which its entirely apterous condition distinguishes it. *P. bicolor* came from Cornwallis Island and Torres Straits and *P. babindae* mihi, from near Cairns. There are also in my collection specimens from S. Queensland of what seems to be an undescribed species, distinguished from *babindae* by the absence of the yellow macula on the 7th tergite, and on the other side very close to *P. scabrella* Tepper, from New South Wales, Victoria, and South Australia. These four species, with perhaps *P. scabra* Brunner, may form a group whose winged ancestor came from

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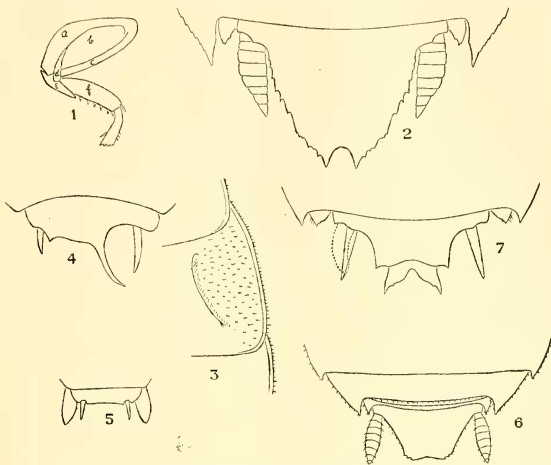
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the north; and it is interesting to note that while *bicolor* Kirby, the most northerly of the group still possesses vestigial tegmina, and *scabrella* Tepper the most southerly, has no trace of tegmina at all, the two species intermediate in latitude,



Text-fig. 1. *Platyzosteria analis* Sauss. Portion of left posterior leg, ventral aspect. (a) Coxal ridge; (b) Coxal groove; (c) Coxal border; (d) Coxal process; (e) Trochanter; (f) Femur; (g) Tibia.

Text-fig. 2. *Platyzosteria spatiosa* Shaw. ♀. Apex of abdomen, dorsal aspect. (Paratype. No. 124, Coll. Shaw).

Text-fig. 3. *Cutilia illingworthi* Shaw. ♀. Right tegminal vestige. (Paratype. No. 142, Coll. Shaw).

Text-fig. 4. *Cutilia illingworthi* Shaw. ♂. Subgenital lamina. (Type. No. 136, Coll. Shaw).

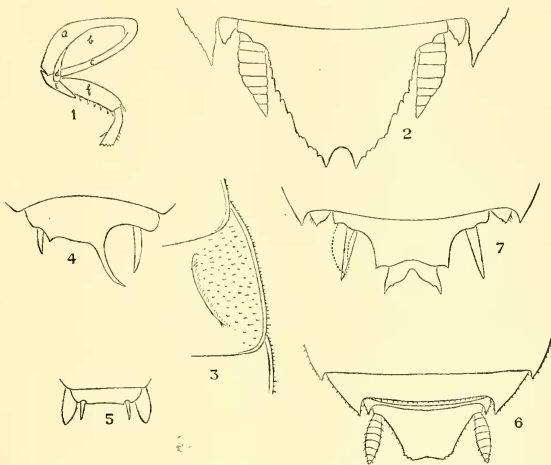
Text-fig. 5. *Cutilia spryi* Shaw. ♂. Apex of abdomen, ventral aspect. (Paratype. No. 243, Coll. Shaw).

Text-fig. 6. *Cutilia feriarum* Shaw. ♀. Apex of abdomen, dorsal aspect. (Paratype. No. 253, Coll. Shaw).

Text-fig. 7. *Zonioploca dixonii* Shaw. ♂. Apex of abdomen, dorsal aspect. (Type. No. 232, Coll. Shaw).

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PLATYZOSTERIA CINGULATA, n.sp.

Black, banded with bright yellow, smooth, nitid. Head rufo-fuscous, ocelli-form spots minute, yellow; eyes black; antennae rufo-fuscous, basal segments darker. Thoracic tergites with some scattered, shallow, impressed dots, and with all their visible margins broadly yellow on both dorsal and ventral aspects; the black discs of these tergites with their posterior margins sinuate, that of the pronotum showing anteriorly a sinuate margin, from the centre of which two small dashes extend forward about 1 mm. into the yellow margin, and showing posteriorly on each side of the middle line an outwardly curving, rounded black process extending into the posterior yellow margin; no tegminal vestiges. Abdominal tergites, except 8th and 9th, broadly margined yellow posteriorly and laterally; postero-lateral angles of 5th, 6th and 7th tergites backwardly produced; posterior margin of 7th tergite subsinuate, lateral margins entire. Abdominal sternites black, or dark castaneous, broadly margined yellow. Supra-anal lamina of ♂ subquadrate, angles rounded, emarginate, with a medial longitudinal sulcus, posterior margin more or less spined, black, with the posterior two-thirds yellow. Cerci flattened, black, tips fuscous. Supra-anal lamina of ♀ rounded, subtectiform, posterior margin strongly denticulate, denticulations tipped fuscous. Subgenital lamina of ♂ subquadrate, posterior margin straight; styles black, situate at the angles. Legs rufo-fuscous, coxal borders on both aspects broadly pale yellow; all the coxal processes yellow; posterior metatarsus nearly as long as the remaining tarsal segments combined, its pulvillus occupying almost its entire length; arolia moderate in size. *Length*, ♂ 17 mm., ♀ 18 mm.

Type, specimen No. 130 (♂); *allotype*, specimen No. 131 (♀), Coll. Shaw. *Paratypes*, 4 ♂, 3 ♀.

Hab.—*Queensland*: Spring Bluff, 1500 ft. (Miss Brigit Shaw, Jan., 1919), Bunya Mts., 3300 ft. (R. Illidge, Oct., 1919), Stanthorpe district, 2700 ft. (H. Jarvis, Nov., 1919).

Notes.—This beautiful species closely resembles *P. balteata* Tepper, but it is larger, broader, the yellow margins are relatively wider, and it is apterous whilst *P. balteata* possesses tegminal vestiges. It appears to be widely distributed on the Darling Downs, but has not hitherto been observed on the coastal belt.

In some specimens the supra-anal lamina of ♂ is furnished with several stout spines, though in the Type these are merely indicated; and in one paratype the lamina is spined on one side and practically entire on the other.

The Type shows the "titillator" and several of the other chitinated portions of the genital membrane protruding from the cloaca, and it may be useful to draw attention to the fact that cockroaches killed by immersion in alcohol exert in dying a strong expulsive effort, and the usually concealed 8th and 9th tergites may become visible (vide *Cutilia feriarum*, infra) and a considerable part of the genital membrane may be extruded.

PLATYZOSTERIA SPATIOSA, n.sp.

♀ black, nitid. Head with the vertex castaneous, the frons black, margins of the clypeus and labrum yellowish-brown, the ocelli-form spots large, quadrangular and yellow; the antennae as long as the body, brown, with the proximal segments darker, the second segment about as long as two, and the third segment about as long as four of the distal segments. Pronotum anteriorly parabolic, posterior margin nearly straight, and together with the mesonotum and metanotum showing some crumplings of the surface and some impressed dots; lateral

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margins of the meso- and metanotum somewhat thickened and everted; tegminal vestiges with their apices definitely separated from the tergite; no trace of wings; postero-lateral angles of the metanotum slightly produced. Abdominal tergites with their postero-lateral angles backwardly produced, stigmata well marked; lateral margins of the 7th tergite finely serrate. Supra-anal lamina extending to nearly twice the length of the cerci, triangular, cucullate, apex roundly emarginate, with the lateral margins prominently spined (Text-fig. 2). Abdominal sternites black; valves of the subgenital lamina long, not strongly curved. Legs castaneous, tibiae darker, triseriately spined on the outer aspect; posterior metatarsus nearly as long as the remaining tarsal segments combined; pulvillus long; coxal borders narrowly margined with ochreous brown. *Length*, 41 mm.; pronotum 11 x 15 mm.

Type, specimen No. 123 (♀), Coll. Shaw; paratype ♀, No. 124, Coll. Shaw.

Hab.—*Western Australia*: Cunderdin (R. Illidge, Oct., 1913).

Notes.—Mr. Illidge, who kindly gave me these two female specimens, took them at Cunderdin about 120 miles east of Perth. The species belongs to the *analis* group of the genus, and is closely allied to *P. grandis* Sauss. differing from it in the possession of tegminal vestiges, larger size, and relatively larger supra-anal lamina.

Genus CUTILIA Stal.

CUTILIA ILLINGWORTHII, n.sp.

Rufo-fuscous, nitid. Head fusco-rufous; eyes black; ocelli-form spots large, yellowish, filling in the angle formed between the eyes and the antennary fossae; antennae testaceous, proximal segments darker. Pronotum anteriorly parabolic, posterior margin almost straight, angles rounded, with a few erect hairs. Tegminal vestiges (Text-fig. 3) not free at the tips, but each indicated by a deep curved sulcus occupying the position of the inner (or caudal) margin of the usual form of tegminal vestige; no wing vestiges. Abdominal tergites with the posterior half of each darker in colour, lateral margins thickened; postero-lateral angles of 5th, 6th and 7th tergites backwardly produced; 7th tergite with the posterior margin sinuate, lateral margins entire. Supra-anal lamina of ♂ subquadrate, deeply emarginate, ciliate, postero-lateral angles spined. Cerci about $1\frac{1}{2}$ times as long as the lamina. Supra-anal lamina of ♀ trigonal, sub-tectiform, apex truncate, widely emarginate. Subgenital lamina of ♂ (Text-fig. 4) asymmetrical, triangularly produced, terminating in a long spine curving towards the left; styles long, incurved, the left style longer, and situate nearer the middle line than the right, which has a short blunt process internal to it. Legs fusco-rufous, coxal borders rufo-testaceous, posterior metatarsi longer than the remaining tarsal segments combined, biseriately spined beneath, with short pulvilli; 4th and 5th segments of the tarsi paler. *Length*, ♂ 17.5–22.5 mm., ♀ 23.5–24.5 mm.

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Hab.—*Queensland*: Cairns (Dr. J. F. Illingworth, 1917 to 1920).

Notes.—About a dozen specimens of this remarkable cockroach were sent to me from Cairns by Dr. Illingworth. In describing *Cutilia uncinata* (Mem. Qland Mus., vi., 1918, p. 160), a new species from islands off the coast of North Queensland, attention was drawn to the hitherto unknown form of the vestigial tegmina, and of the subgenital lamina of the ♂, and now, from the adjoining coast, comes another species almost identical in form in these two particulars;

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but whilst *uncinata* mihi is dark castaneous with a yellow lateral border, the present species is of quite different appearance, being considerably larger, of much lighter colour, and almost concolourous. It is curious that two species should differ so much in facies, whilst both of them present two almost identical and very striking departures from the usual form. That the one is not an insular form of the other is shown by the fact that Dr. Illingworth has since forwarded some specimens of *uncinata* (smaller than the Type) taken in 1919 "ex beach Herbert River" about 130 miles south of Cairns; and also some taken at Gordonvale.

Dr. Illingworth has submitted to me a considerable number of Blattidae from the neighbourhood of Cairns and Gordonvale, and has kindly given me many of them. Three new species of his discovering are described in the present paper, and it is a pleasure to propose that this one should bear his name.

CUTILIA BREVITARSIS, n.sp.

Nigro-castaneous, smooth, nitid except the posterior tergites which are finely shagreened. Head rufo-castaneous; ocelliform spots yellow; antennae pale fuscous, of about the length of the body. Thoracic tergites with their posterior margins slightly backwardly produced medially. Tegminal vestiges completely separated from the mesonotum, articulation not completely covered by the pronotum, apex not obliquely truncate. No vestiges of wings beyond a slight backward prolongation of the postero-lateral angles of the metanotum. Abdomen with the postero-lateral angles of tergites 5, 6 and 7 backwardly produced; tergites 6 and 7 and the supra-anal lamina faintly shagreened, lateral margins entire. Supra-anal lamina of ♂ and of ♀ subtriangular, apex truncate, widely emarginate, (emargination angular in ♂, rounded in ♀,) extending to about half the length of the cerci; sternites concolourous. Subgenital lamina of ♂ subquadrate, posterior margin rounded, with a very long spine at the base of each style. Legs fusco-castaneous, posterior metatarsi about equal to the remaining tarsal segments combined, biserially spined beneath, pulvilli short, middle metatarsi not spined beneath.

Ootheca chitinous, castaneous, approximately twice as long as deep; suture serrate, carried uppermost; surface smooth, entirely devoid of carinae. Length, ♂ 15–18 mm., ♀ 15–19 mm.

Type, specimen No. 233 (♂); allotype, specimen No. 234 (♀), Coll. Shaw. Several ♂ and ♀ paratypes.

Hab.—N. Queensland: Cairns, Gordonvale (Dr. J. F. Illingworth, 1917-1919).

Notes.—Dr. Illingworth sent me for identification several specimens of this cockroach. It closely resembles *C. nitidella* mihi (Mem. Qland Mus., vi., 1918, p. 155), but is not of so depressed a form, and its short posterior metatarsus with comparatively long pulvillus at once separates it from that species. The posterior metatarsus is definitely biserially spined beneath, so it seems best to refer *brevitarsis* to the genus *Cutilia*. This segment is about the length of, or slightly shorter than the remaining tarsal segments combined; its pulvillus is not apical, but extends a little upwards, though not so far as in *Platyzosteria*. The ootheca is still attached to one of the paratypes (No. 235, Coll. Shaw) and while of similar proportions to that of *C. nitidella* (l.c., p. 157) it differs from it in being not fluted, but quite smooth. Half the paratypes are in Dr. Illingworth's collection.

CUTILIA SPRYI, n.sp.

Head and thoracic tergites ferrugineous; antennae fuscous. Abdominal tergites gradually darkening caudally to nigro-castaneous; abdominal sternites

but whilst *uncinata* mihi is dark castaneous with a yellow lateral border, the present species is of quite different appearance, being considerably larger, of much lighter colour, and almost concolourous. It is curious that two species should differ so much in facies, whilst both of them present two almost identical and very striking departures from the usual form. That the one is not an insular form of the other is shown by the fact that Dr. Illingworth has since forwarded some specimens of *uncinata* (smaller than the Type) taken in 1919 "ex beach Herbert River" about 130 miles south of Cairns; and also some taken at Gordonvale.

Dr. Illingworth has submitted to me a considerable number of Blattidae from the neighbourhood of Cairns and Gordonvale, and has kindly given me many of them. Three new species of his discovering are described in the present paper, and it is a pleasure to propose that this one should bear his name.

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CUTILIA SPRYI, n.sp.

Head and thoracic tergites ferrugineous; antennae fuscous. Abdominal tergites gradually darkening caudally to nigro-castaneous; abdominal sternites

wholly nigro-castaneous. Pronotum with the posterior margin slightly produced backwards in the middle. No trace of tegmina or wings. Abdominal tergites 5 and 6 with the postero-lateral angles slightly produced backwards, tergite 7 more produced, particularly in the ♀; first abdominal tergite of ♂ with a medial "gland" orifice surrounded by bristles and sometimes concealed by the metanotum; 7th abdominal tergite with the posterior margin sinuate, lateral margins entire. Supra-anal lamina of ♂ triangular, apex much truncate, not extending to half the length of the cerci, widely emarginate, lateral margins entire, and slightly concave; of ♀ triangular, less of the apex truncate, extending to more than half the length of the cerci, emargination deeper and narrower than in the ♂, the tips of the valves of the subgenital lamina showing in the emargination. Subgenital lamina of ♂ (Text-fig. 5) quadrate, posterior margin faintly concave, styles situate in a conspicuous notch at the postero-lateral angle, lateral margins anterior to the styles convex. Legs testaceous, with a large castaneous macula at the base of the coxae; posterior metatarsus longer than the remaining tarsal segments combined, biserially spined beneath, remaining pulvilli apical, remaining pulvilli occupying the whole length of the segment. *Length*, ♂ and ♀ 10.5 mm.

Type, specimen No. 237 (♂); *allotype*, specimen No. 238 (♀), Coll. Shaw. Five ♂ and two ♀ paratypes.

Hab.—*Queensland*: Spring Bluff, near Toowoomba (Miss Brigit Shaw, Jan., 1919).

Notes.—Nine specimens were collected at Spring Bluff in Jan., 1919, by my daughter Brigit. The species is near *Cutilia tepperi* mihi (Mem. Q. Mus., vi., 1918, p. 157), which is also apterous, but it differs in the smaller size, and complete absence of flavid markings on the dorsum. In general colour it resembles *C. sedilloti* Bol. from New Zealand and, like that species, has the postero-lateral angles of the distal abdominal tergites scarcely produced, especially in the ♂. In naming this species after my friend Mr. F. P. Spry, I desire to acknowledge our indebtedness to him for his long study of Australian forms of *Blattidae*, and to express my personal gratitude for numerous specimens sent, and for much kindly assistance.

CUTILIA PHILPOTTI, n.sp.

♂ nigro-castaneous, bordered yellow. Head yellow, a broad castaneous macula occupying the frons, clypeus and labrum; eyes castaneous; antennae missing except the proximal segment on the right side, which is castaneous. Thoracic tergites dark castaneous with a broad lateral yellow border, the extreme margin of which is slightly thickened and fuscous; pronotum with the anterior margin truncate, exposing the yellow vertex which completes the yellow border anteriorly; posterior margin subsinuate, as also are those of the meso- and metanotum. Tegmina vestiges completely separated from the mesonotum, apex obliquely truncate, forming part of the lateral yellow border except towards the inner margin, which portion is of the castaneous ground colour. No trace of wings. Abdominal tergites dark castaneous, the lateral yellow border being continued on tergites 3, 4 and 5 as yellow maculae diminishing in size from before backwards; tergites 5, 6 and 7 with the postero-lateral angles strongly produced backwards, margins entire; tergite 7 with the posterior margin sinuate. Supra-anal lamina quadrate, widely emarginate, ciliate, angles slightly obtuse extending to about half the length of the cerci, lateral margins somewhat everted, cerci rufo-castaneous at the tips. Subgenital lamina quadrate, posterior margin convex, faintly emarginate, with a stout prominent spine within the base of the styles, which are long and inserted sublaterally. Abdominal sternites dark castaneous, paler in the disc.

wholly nigro-castaneous. Pronotum with the posterior margin slightly produced backwards in the middle. No trace of tegmina or wings. Abdominal tergites 5 and 6 with the postero-lateral angles slightly produced backwards, tergite 7 more produced, particularly in the ♀; first abdominal tergite of ♂ with a medial "gland" orifice surrounded by bristles and sometimes concealed by the metanotum; 7th abdominal tergite with the posterior margin sinuate, lateral margins entire. Supra-anal lamina of ♂ triangular, apex much truncate, not extending to half the length of the cerci, widely emarginate, lateral margins entire, and slightly concave; of ♀ triangular, less of the apex truncate, extending to more than half the length of the cerci, emargination deeper and narrower than in the ♂, the tips of the valves of the subgenital lamina showing in the emargination. Subgenital lamina of ♂ (Text-fig. 5) quadrate, posterior margin faintly concave, styles situate in a conspicuous notch at the postero-lateral angle, lateral margins anterior to the styles convex. Legs testaceous, with a large castaneous macula at the base of the coxae; posterior metatarsus longer than the remaining tarsal segments combined, biserially spined beneath, remaining pulvilli apical, remaining pulvilli occupying the whole length of the segment. *Length*, ♂ and ♀ 10.5 mm.

Type, specimen No. 237 (♂); *allotype*, specimen No. 238 (♀), Coll. Shaw. Five ♂ and two ♀ paratypes.

Hab.—*Queensland*: Spring Bluff, near Toowoomba (Miss Brigit Shaw, Jan., 1919).

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CUTILIA PHILPOTTI, n.sp.

♂ nigro-castaneous, bordered yellow. Head yellow, a broad castaneous macula occupying the frons, clypeus and labrum; eyes castaneous; antennae missing except the proximal segment on the right side, which is castaneous. Thoracic tergites dark castaneous with a broad lateral yellow border, the extreme margin of which is slightly thickened and fuscous; pronotum with the anterior margin truncate, exposing the yellow vertex which completes the yellow border anteriorly; posterior margin subsinuate, as also are those of the meso- and metanotum. Tegmina vestiges completely separated from the mesonotum, apex obliquely truncate, forming part of the lateral yellow border except towards the inner margin, which portion is of the castaneous ground colour. No trace of wings. Abdominal tergites dark castaneous, the lateral yellow border being continued on tergites 3, 4 and 5 as yellow maculae diminishing in size from before backwards; tergites 5, 6 and 7 with the postero-lateral angles strongly produced backwards, margins entire; tergite 7 with the posterior margin sinuate. Supra-anal lamina quadrate, widely emarginate, ciliate, angles slightly obtuse extending to about half the length of the cerci, lateral margins somewhat everted, cerci rufo-castaneous at the tips. Subgenital lamina quadrate, posterior margin convex, faintly emarginate, with a stout prominent spine within the base of the styles, which are long and inserted sublaterally. Abdominal sternites dark castaneous, paler in the disc.

Legs with the coxae testaceous, a large castaneous macula occupying the basal portion of the coxal groove, and the whole of the coxal ridge and coxal process; the remainder of the legs castaneous, spines paler. Posterior metatarsus about the length of the remaining tarsal segments combined, somewhat dilated distally, biserially spined beneath, pulvillus apical; remaining segments with large pulvilli; middle metatarsus biserially spined beneath towards the base. *Length*, 17.5 mm.

Type, specimen No. 110 (♂), Coll. Shaw.

Hab.—? *New Zealand*: Invercargill.

Notes.—This unique specimen was sent to me in 1918 by Mr. A. Philpott, now of the Cawthron Institute, Nelson, N.Z., taken at Invercargill in the shop of a fruiterer who dealt largely in Australian fruits; and I have kept it hoping that other specimens would be forthcoming. As such has not been the case, I now propose that it should be named after its discoverer, as an acknowledgment of the keen interest he takes in New Zealand Blattidae. Until further material is discovered there must be a doubt as to whether this species is a native of Australia, or of New Zealand, or occurs in both; but, with the exception of *C. nitida* Brunner v. W., the whole genus *Cutilia* is confined to these countries.

CUTILIA FERIARUM, n.sp.

Small, nigro-castaneous, nitid, apterous. Head with the vertex rufous, frons black; margins of the clypeus and labrum fuscous; ocelliform spots large, triangular, pale yellow; antennae fuscous, densely ciliated, shorter than the body. Thoracic tergites dark castaneous, with the lateral portions rufo-castaneous; pronotum somewhat truncate anteriorly, exposing the vertex; lateral margins of the meso- and metanotum slightly thickened; the lateral and posterior margins of all the thoracic tergites ciliate. Abdominal tergites with the lateral margins slightly thickened and ciliate, posterior margins tuberculate and ciliate. In the Paratype the posterior portions of tergites 8 and 9 are visible; these are not ciliate, and are of a pale cream colour, except the postero-lateral angles of the 9th which are black, ciliate and produced into a spine. The surface of all the tergites with a few scattered erect cilia. Supra-anal lamina triangular, apex truncate, lateral margins everted, as is also the posterior margin in the ♂, emarginate, not reaching to half the length of the cerci in the ♂, but considerably longer in the ♀; cerci black, tips rufous. Subgenital lamina of the ♂ short, posterior margin nearly straight, lateral margins convex. Abdominal sternites black. Legs with the coxae black, coxal borders cream-white, distal portion of the coxal ridges and coxal processes, and the rest of the legs rufo-castaneous; posterior metatarsi longer than the remaining tarsal segments combined, biserially spined beneath, pulvillus apical; remaining tarsal segments unspined, pulvilli large, arolia large. *Length*, ♂ 12 mm., ♀ 13 mm.

Type, specimen No. 252 (♂); allotype, specimen No. 254 (♀), Coll. Shaw. Paratype, No. 253 (♀).

Hab.—*Queensland*: Stanthorpe; *N.S. Wales*: Wilson's Downfall (Jan., 1921).

Notes.—Three specimens were collected during holidays in Jan., 1921, by my daughter Brigit, one at Stanthorpe, the others just over the border in N.S.W. The species is distinguished by its small size, almost black colour, very pale coxal borders, and absence of tegminal vestiges. As previously pointed out (Shaw, Mem. Qland Mus., vi., 1918, p. 151), species having long, biserially spined posterior metatarsi, with apical pulvilli should be included in *Cutilia* Stal, even

Legs with the coxae testaceous, a large castaneous macula occupying the basal portion of the coxal groove, and the whole of the coxal ridge and coxal process; the remainder of the legs castaneous, spines paler. Posterior metatarsus about the length of the remaining tarsal segments combined, somewhat dilated distally, biserially spined beneath, pulvillus apical; remaining segments with large pulvilli; middle metatarsus biserially spined beneath towards the base. *Length*, 17.5 mm.

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Small, nigro-castaneous, nitid, apterous. Head with the vertex rufous, frons black; margins of the clypeus and labrum fuscous; ocelliform spots large, triangular, pale yellow; antennae fuscous, densely ciliated, shorter than the body. Thoracic tergites dark castaneous, with the lateral portions rufo-castaneous; pronotum somewhat truncate anteriorly, exposing the vertex; lateral margins of the meso- and metanotum slightly thickened; the lateral and posterior margins of all the thoracic tergites ciliate. Abdominal tergites with the lateral margins slightly thickened and ciliate, posterior margins tuberculate and ciliate. In the Paratype the posterior portions of tergites 8 and 9 are visible; these are not ciliate, and are of a pale cream colour, except the postero-lateral angles of the 9th which are black, ciliate and produced into a spine. The surface of all the tergites with a few scattered erect cilia. Supra-anal lamina triangular, apex truncate, lateral margins everted, as is also the posterior margin in the ♂, emarginate, not reaching to half the length of the cerci in the ♂, but considerably longer in the ♀; cerci black, tips rufous. Subgenital lamina of the ♂ short, posterior margin nearly straight, lateral margins convex. Abdominal sternites black. Legs with the coxae black, coxal borders cream-white, distal portion of the coxal ridges and coxal processes, and the rest of the legs rufo-castaneous; posterior metatarsi longer than the remaining tarsal segments combined, biserially spined beneath, pulvillus apical; remaining tarsal segments unspined, pulvilli large, arolia large. *Length*, ♂ 12 mm., ♀ 13 mm.

Type, specimen No. 252 (♂); allotype, specimen No. 254 (♀), Coll. Shaw. Paratype, No. 253 (♀).

Hab.—*Queensland*: Stanthorpe; *N.S. Wales*: Wilson's Downfall (Jan., 1921).

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though completely apterous. *C. tepperi* (Shaw, *l.c.*, p. 157) was the first of these species to be described; the present paper includes two more, *spryi* and *feriarum*, and an undescribed species in my collection from Daly River, N. Territory, makes a fourth.

Genus *ZONIOPLOCA* Stal.

ZONIOPLOCA DIXONI, n.sp.

Castaneous above, rufo-testaceous beneath. Head with the vertex rufo-castaneous; a large rufo-castaneous macula occupying the greater part of the frons, but paling to testaceous around the antennary fossae, on the margin of the clypeus and on the lateral portions of the head; eyes black; antennae rufo-testaceous. Thoracic tergites rugose; pronotum with the lateral margins much thickened, meso- and metanotum with the lateral margins thickened, postero-lateral angles somewhat produced backwards, no flying organs. Abdominal tergites smooth, nitid, their posterior margins furnished with a row of small tubercles; tergite 5 with the postero-lateral angles not, or but slightly produced backwards, tergites 6 and 7 with the same well-produced, lateral margins entire. Supra-anal lamina of the ♂ (Text-fig. 7) rufo-testaceous, subquadrate, widely emarginate, ciliate, lateral margins concave, ending posteriorly in a spine directed backwards and outwards; cerci slightly incurved, blunt at the apex, extending to about the length of the lamina; of the ♀ narrower at the apex, with three or four blunt spines at each side, lateral margins slightly crenulate. Subgenital lamina of ♂ (Text-fig. 7) backwardly produced, lateral margins concave, terminating in two divergent pointed processes; styles long, acuminate, laterally inserted. Legs rufo-testaceous; coxal borders pale; posterior tibiae in the ♀ furnished on the whole length of their inner borders with a closely-set brush of fine hairs; posterior metatarsus of about the length of the remaining tarsal segments combined, not spined beneath, pulvillus apical, remaining pulvilli occupying the whole segment, arolia large. Length, ♂ 26.5 mm., ♀ 32.0 mm.

Type, specimen No. 232 (♂); allotype, specimen No. 251 (♀), Coll. Shaw. Paratypes, 1 ♀ and 1 larval ♀, Coll. F. F. Spry.

Hab.—Central Australia; South Australia; Victoria: Mallee district.

Notes.—The material on which this species is founded came to me from my friend Mr. F. F. Spry. About a year ago he sent me a ♀ of what appeared to be a new *Zonioploca* Stal taken by Mr. J. C. Dixon in the Mallee district of Victoria, and later, in response to enquiries, a larval ♀ from the same locality and captor, and a ♂ and a ♀ labelled as from Central and South Australia respectively, from an old collection of Mr. C. French, lately Govt. Entomologist of Victoria. These latter have been selected as the types, and the Mallee specimens, though so far structurally indistinguishable, are of a darker colour, less robust, and less rugose; until more material is found no good purpose will be served by regarding them as more than a dark variety. The species differs from the rest of the genus in some particulars such as the postero-lateral angles of the 5th abdominal tergite being scarcely produced, the smoother dorsum, the thickened lateral margins of the meso- and metanotum, and the form of the subgenital lamina of the ♂; but the 6th and 7th tergites are well produced, the pronotum has a thickened margin, and the tarsal structure is that of *Zonioploca* Stal. Mr. Dixon is a keen naturalist who has added considerably to our knowledge of the Mallee fauna, and as some slight acknowledgment of this it is proposed that this species should be named after him.

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Type, specimen No. 232 (♂); allotype, specimen No. 251 (♀), Coll. Shaw. Paratypes, 1 ♀ and 1 larval ♀, Coll. F. F. Spry.

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